# Monitoring Part 5: Acid Rain Program Monitoring Statistics

Louisville, KY July 25, 2001 Louis Nichols



# ARP Monitoring Systems at Coal-Fired Sources - Y2001Q1

- ◆ Acid Rain Program (ARP) coal-fired sources reported that they had 711 primary NO<sub>x</sub> monitoring systems in 1st Quarter 2001 monitoring single units or common stacks
- ◆ Of these primary NO<sub>x</sub> monitoring systems, the sample acquisition method was either in-stack or out-of-stack dilution in 621 of these systems



## Dry Extractive Monitoring Systems at ARP Coal-Fired Sources - Y2001Q1

- ◆ Of the primary NO<sub>x</sub> monitoring systems at ARP sources that listed coal as the primary fuel, 90 were dry extractive systems (analyzed dry)
- ◆ ARP coal-fired sources reported 64 H<sub>2</sub>O monitoring systems monitoring single units or common stacks in 1st Quarter 2001



### Moisture Monitoring Systems at ARP Coal-Fired Sources - Y2001Q1

- Of the moisture monitoring systems at the ARP sources with coal as a primary fuel 48 were wet/dry oxygen monitoring systems
- Seventeen of the moisture monitoring systems at these sources were monitors other than the wet/dry oxygen monitoring system
- Seven of the seventeen moisture monitoring systems that were not wet/dry oxygen monitoring systems were temperature/psychrometric lookup tables



# ARP Moisture Defaults for Solid Fuels - Section 75.11(b)

- Moisture defaults can be used in lieu of monitoring for the fuels listed below (§ 75.11(b))
- Coal
  - » Anthracite 3%
  - » Bituminous 6%
  - » Sub-bituminous 8%
  - » Lignite 11%
- Wood
  - » Wood 13%



### Other Types of NO<sub>x</sub> Monitoring Systems in the Acid Rain Program

- ◆ ARP sources reported 43 in-situ primary NO<sub>x</sub> monitoring systems (not differentiated by fuels) in 1st Quarter 2001
- ◆ ARP sources reported 25 wet extractive NO<sub>x</sub> monitoring systems (not differentiated by fuels) in 1st Quarter 2001



### **ARP Peaking Units**

- ◆ 204 ARP units claimed peaking status as defined in section 72.2 in first quarter of 2001
- ◆ Gas/oil peaking units can monitor NO<sub>x</sub> with the estimation procedures in part 75, appendix E
- Heat input is usually monitored with a fuel flowmeter in accordance with procedures in part 75, appendix D



#### **ARP Combustion Turbines**

- ◆ 539 Turbines reported emissions in first quarter 2001
- ◆ 114 Turbines measured the NO<sub>x</sub> emission rate using the NO<sub>x</sub> emission rate estimation procedures in appendix E (NO<sub>x</sub> rate curves)



### ARP Stack Flow Monitors Reported 1st Quarter 2001

- ARP sources reported 812 primary stack flow monitors in 1st Quarter 2001
- ◆ ARP sources reported 90 stack flow monitors in 1st Quarter 2001 at units with oil or gas as a primary fuel
- ◆ ARP sources reported 3 stack flow monitors in 1st Quarter 2001 at units with wood as a primary fuel



## Types of Flow Monitors Reported in 1st Quarter 2001 at ARP Sources

- ◆ 528 Ultrasonic Flow Monitors
- ◆ 225 Differential Pressure
- ◆45 Thermal
- ◆ 14 Other

